

REMARKS

This paper is submitted in response to the non-final Office Action mailed March 25, 2008, and is accompanied by a petition for a three-month extension of time and the appropriate extension fee. In the Office Action, claims 1-7 were rejected under 35 U.S.C. §103(a) as allegedly obvious over Heard et al. (U.S. Patent No. 5,996,311) in view of Pickel et al. (U.S. Patent No. 6,354,427).

By the foregoing, claim 3 is cancelled, and claims 1, 2 and 4-7 are pending and currently amended. Support for the amendments to claim 1 can be found in now cancelled claim 3, and in paragraphs [0020] and [0021] and Figs. 1 and 2. Claims 2 and 4-7 are amended merely to be consistent with amended claim 1, as well as to conform with the preferred U.S. format. Therefore, no new matter has been added.

In view of the following remarks, Applicants respectfully request the examiner to reconsider and withdraw the outstanding rejections.

Claim 1 has been amended to recite a device for screwing caps onto containers, wherein the device includes a closing head (2) coupled to a gripping tong (3) for gripping the caps, and a control unit (4) for operating the gripping tong (3). *Each control unit (4) has a cam (7) which rotates relative to a rotor (1), wherein the cam (7) is coupled to a push rod (8) that is displaced by the cam to activate the gripping tong (3).*

Heard et al. fail to disclose or suggest the limitations of amended claim 1. As was previously argued by Applicants in the response to the Office Action mailed on June 27, 2007, the adapter (76) of Heard et al. is not opened and closed in a controlled manner, as recited in amended claim 1, because the adapter (76) does not have moving parts that can be opened or closed. Additionally, Heard et al. does not disclose a “control element allocated [to each gripping tong] to revolve therewith,” as recited in amended claim 1. Instead, Heard et al. discloses “stationary cam tracks (84)” that, by definition, do not revolve. *See* col. 3, lns. 59-61. The examiner did not specifically address these arguments in the Office Action mailed on March 25, 2008, and Applicants stand by these arguments.

Additionally, as the examiner acknowledges, Heard et al. “does not disclose the closing head as using grippers.” *See*, Office Action, page 2. The examiner, however, argued that Pickel et al. “discloses a container handling device with gripping units (24) consisting of tong grippers (24) that are moved by means of cam tracks.” The examiner then concluded that it would have been obvious to one of ordinary skill in the art to “modify the invention of Heard et al. by using the grippers of Pickel et al in order to more delicately grip the caps.” Applicants respectfully disagree.

Pickel et al. discloses a device for introducing containers into a treatment space. *See* claim 1. A horizontal star plate (43) rotates about a vertical drive shaft (42) wherein the star plate (43) has a plurality of angle levers (44) distributed around its circumference. *See* col. 3, lns. 48-54. The angle levers (44) pivot about axes (45) that are parallel to the drive shaft (42). *See* col. 3, lns. 48-54. A sliding part (48) is mounted so that it is longitudinally displaceable on the outer leg of each angle lever (44). *See* col. 3, lns. 59-61. The sliding part (48) has a cam roller (49) which engages a grooved cam (50) that is stationary relative to rotating star plate (43), and the sliding part (48) is thereby radially displaced. *See* col. 3, lns. 61-65. A clamp (24) is arranged on the end of the sliding part (48), comprising a pair of swing arms (25,26) that pivot about a pair bearing pins (52,53). *See* col. 3, ln. 65-col. 4, ln. 4. The swing arms (25,26) are biased in a “closed” position by an elastic means (27) in the form of a tension spring. *See* col. 4, lns. 4-5.

The device of Pickel et al., however, does not disclose or suggest several elements of amended claim 1. For example, the device of Pickel et al. does not disclose or suggest a gripping tong which can be moved on and off in a controlled manner, as recited in amended claim 1. To the contrary, the clamp (24) of Pickel et al. is not controlled to move, but merely moves in reaction to an externally applied force. The specification of Pickel et al. even states that “[t]he clamps (24) are operated *directly* by the bottles (1).” *See* col. 4, lns. 18-20 (emphasis added). Specifically, when an external mechanism pushes a bottle (1) between the swing arms (25,26) of the clamp (24), the bottle (1) forces the swing arms (25,26) to pivot about the bearing pins (52,53) against the bias of the tension spring (27) until the bottle (1) snaps into place between the swing arms (25,26). *See* col. 4, lns. 20-25 and Fig. 1. When an external mechanism removes the

bottle (1), the swing arms (25,26) are forced open by the bottle (1) against the force of the tension spring (27) until the bottle (1) has been snapped out completely. *See* col. 4, lns. 25-29 and Fig. 1. Therefore, the swing arms, or tongs, of Pickel are not “moved on and off in a controlled manner,” as recited in claim 1.

Furthermore, the device of Pickel et al. does not disclose or suggest that each gripping tong has a control unit allocated thereto and to revolve therewith, as recited in amended claim 1. As discussed above, the clamp (24) of Pickel et al. is not controlled, and thus necessarily does not have a control unit.

In addition to not disclosing a control unit, Pickel et al. does not disclose a cam that rotates relative to a rotor, as recited in amended claim 1. The device of Pickel et al. utilizes a cam mechanism comprising a cam roller (49) which engages a grooved cam (50) to move the sliding part (48) in the radial direction. *See* col. 3, lns. 61-65. The cam (50) of Pickel et al., however, does not rotate relative to the rotor. Instead, the grooved cam (50) remains stationary and the angle lever (44) and the attached cam roller (49) rotate. *See* col. 3, lns. 61-65.

Additionally, the device of Pickel et al. does not disclose or suggest that a cam is coupled to a push rod that is displaced by the cam to activate the gripping tong, as recited in amended claim 1. As previously argued, the clamp (24) of Pickel et al. is not activated or controlled, but merely passively opens and closes in reaction to an externally applied force. *See* col. 4, lns. 18-20. Specifically, when an external mechanism pushes a bottle (1) between the swing arms (25,26) of the clamp (24), the bottle (1) forces the swing arms (25,26) to pivot about the bearing pins (52,53) against the bias of tension spring (27) until the bottle (1) snaps into place between the swing arms (25,26). *See* col. 4, lns. 20-25.

In light of the foregoing, Applicants respectfully assert that Heard et al. in view of Pickel et al. fail to disclose each and every feature recited in amended independent claim 1, and therefore amended claim 1 is in condition for allowance.

Moreover, even if all elements of amended claim 1 were disclosed by Heard et al. in view of Pickel et al., it would still not have been obvious to one of ordinary skill in the art to “modify

the invention of Heard et al. by using the grippers of Pickel et al. in order to more delicately grip the caps,” as asserted by the examiner.

Specifically, the modification of the device of Heard et al. to use the grippers of Pickel et al. would render the device of Heard et al. inoperable for its intended purpose, and therefore the modification suggested by the examiner would not be obvious to one of skill in the art. *See* MPEP § 2143.01 V. Heard et al. discloses a cylindrical housing (32,33) capable of rotating about a non-rotating shaft (20). *See* col. 3, ln. 51-col. 4, ln. 28. An adapter (76) is rigidly fixed to the cylindrical housing (32,33). *See* col. 5, lns. 15-48 and Fig. 4. The device is actuated when a cam follower (83), coupled to the shaft (20), is forced vertically downward by a stationary cam track (84) such that the adapter frictionally engages the loose cap of container (12). *See* col. 5, lns. 15-48 and Figs. 2 and 4. The cylindrical housing (32,33) is rotated, along with the adapter (76), whereby the cap is tightened. *See* col. 5, lns. 15-48.

The device of Heard et al. would not be able to tighten caps if combined with the clamp (24) of Pickel et al. Specifically, the clamp (24) of Pickel et al. would not be capable of rotatably securing a container cap when the clamp (24) moves vertically downward. The clamp (24) is designed to snap around a bottle (1) when the rounded cylindrical neck of a bottle gradually forces open the swing arms (25,26) as the bottle approaches from a radial direction. *See* col. 4, lns. 18-29 and Figs. 2 and 4. If the clamp (24) was disposed vertically, as would be required if combined with Heard et al., and was to downwardly engage a flat surface, such as the horizontal plane of the cap (77) (*see* Figs. 2, 4 and 5 of Heard et al.), the clamp (24) would not engage a cylindrical shape and could thus not be forced open to secure the cap (77). Even if the clamp (24) was able to approach a cap horizontally, as it is designed to do (*see* Fig. 2 of Pickel et al.), the available clamping force provided by the tension spring (27) is limited by the need for the clamp (24) to open and close when a bottle is inserted and extracted, and the resulting clamping force would thus be insufficient to adequately secure the cap. *See* col. 4, lns. 4-5 and 20-29 of Pickel et al. Therefore, if the cap could not be adequately secured to the cylindrical housing (32,33), the rotation of the cylindrical housing (32,33) would not be able to tighten the cap, thus rendering the device of Heard et al. inoperable for its intended purpose.

Additionally, the proposed combination would change the principle of operation of Heard et al., and therefore the modification suggested by the examiner would not be obvious to one of ordinary skill in the art. *See* MPEP § 2143.01 VI. As explained above, the device of Heard et al. is designed to downwardly translate to frictionally engage a cap, and thereafter the entire housing is rotated to tighten the cap. The clamp (24) of Pickel et al., also described above, is designed to be engaged radially by a cylindrically-shaped body, not axially, and the cylinder must thus approach from a horizontal direction. Disregarding for a moment the inability of the clamp (24) of Pickel et al. to apply adequate clamping force to rotate a cap, the device of Heard et al. would still need to be significantly redesigned to change both the direction of approach from a vertical to a horizontal orientation *and* the method of rotation to spin the horizontally-grasped cap.

In conclusion, Heard et al. in view of Pickel et al. does not disclose or suggest each and every limitation recited in amended claim 1 of the present application. Additionally, the modification proposed by the examiner renders the device of Heard et al. unsatisfactory for its intended purpose. Moreover, the proposed modification changes the principle of operation of the device of Heard et al. Therefore, Applicants respectfully request the examiner to reconsider and withdraw the outstanding rejections.

If there are any outstanding issues that the examiner believes may be remedied by telephone conference, please feel free to contact the undersigned at (312) 474-6300.

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Respectfully submitted,

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